CAMB/NGG 7130 Neuroepigenetics

TIME: Thursdays 1:45pm-3:45pm 9/4/25 – 12/11/25 (no class on 10/9 and 11/27)

LOCATION: CRB 302

COURSE DIRECTORS:

Zhaolan (Joe) Zhou	215.746.5025	zhaolan@pennmedicine.upenn.edu
Erica Korb	215.573.5705	ekorb@pennmedicine.upenn.edu
Hao Wu	215.573.9360	haowu2@pennmedicine.upenn.edu

GOALS: This is a course intended to bring students up to date concerning our understanding of neuropigenetics. It is based on 1) lectures on basic concepts of epigenetics and related methods by course directors, and 2) assigned literature readings covering a variety of experimental systems and concepts in the field, formal presentations by individual students, critical evaluation of primary data, and in-depth discussion of potential issues and future directions,

The goals of each seminar style session are:

1) Review basic concepts of epigenetics in the context of neuroscience
2) Learn to critically evaluate a topic (not a single paper) and rigor of prior research
3) Improve experimental design and enhance rigor and reproducibility
4) Catch up with the most recent development in neuroepigenetics
5) Develop professional presentation skills - be a storyteller

FORMAT: The first 3 sessions will be lectures presented by each of the course directions to ensure everyone is familiar with the basic concepts that are critical to understand the subsequent discussions and paper presentations. Following these sessions, each week will focus on a specific topic of neuroepigenetics via a “seminar” style presentation by a class member on an assigned paper with the following expectations:

Consultation with faculty preceptor prior to presentation

Introduction (~10 min):	Context of topic in the field
	Historic perspectives of the topic
	Current understandings
Primary data (~30 min):	Questions of interest
	Design of experiments
	Interpretation of data
Discussion (~20 min):	Issues/challenges
	Proposed future experiments
	Future directions in a big picture

Engage class for discussion and participation, and manage the presentation in ~1 hour

One or more course directors and a guest preceptor will be present each week to facilitate discussions. NOTE: Most classes will end by 2:45. However, for occasional classes we have 2 presenters which will require the full 2 hours.

EVALUATION:

1) Knowledge of assigned paper and broadly relevant background/developments
2) Consultation with faculty preceptor
3) Peer evaluation and faculty evaluation
4) Enforcement – grading policy: **50% class participation, 50% paper presentation**

COURSE UNIT VALUE: 1 unit
ENROLLMENT LIMITS: 12 (maximum)
PREREQUISITES: BIOM555 or permission by course directors

List of Faculty Preceptors

Date	Preceptor	Topic
9/4	Course Directors – Erica Korb	Organizational Meeting Histone modifications and variants Lecture
9/11	Course Directors – Hao Wu	3D Genome/lncRNA/neuro-omics Lecture
9/18	Course Directors – Zhaolan (Joe) Zhou	DNA modification Lecture
9/25	Zhaolan (Joe) Zhou	Student Presentation
10/3	Erica Korb	Student Presentation
10/9	**BGS 40-year** celebration	No class
10/16	Dana Silverbush	Student Presentation
10/23	Hongjun Song	Student Presentation
10/30	Shelley Berger	Student Presentation
11/6	Kahlilia Blanco	Student Presentation
11/13	Yijing Su	Student Presentation
11/20	Liz Heller	Student Presentation
11/27	**Thanksgiving**	No class
12/4	Ana Cristancho	Student Presentation
12/11	Naiara Akizu	Student Presentation

STUDENT SIGNUPS: A link for presentation signups will be sent out following the organizational meeting by email. When you receive it, please select a date (first come first serve). You should meet with your faculty Host/Mentor to discuss your respective paper assignment and/or to prepare your presentation if possible. (In some cases it is not feasible to schedule a meeting so this is not a requirement of the course but highly recommended when possilbe.) Faculty members are very busy – so schedule your meetings with the faculty mentors at least *2 WEEKS IN ADVANCE*. Please come to these meetings having fully read the paper and its methods, put together your presentation to the best of your ability, and have a list of specific topics/questions to discuss with your mentor.